

EAST Search History (Prior Art)

| Ref # | Hits | Search Query | DBs | Default Operator | Plurals | Time Stamp |
|-------|------|---|---|------------------|---------|------------------|
| L1 | 743 | (microlens or micro\$lens or micro lens) near3 (offset or shift\$4) | US-PGPUB; USPAT | AND | ON | 2011/11/08 12:45 |
| L2 | 213 | 1 and @ad< "20020919" | US-PGPUB; USPAT | AND | ON | 2011/11/08 12:45 |
| L3 | 588 | (microlens or micro\$lens or micro lens) near3 (offset or shift\$4) | US-PGPUB; USPAT | ADJ | ON | 2011/11/08 12:46 |
| L4 | 93 | 3 and @ad< "20020919" | US-PGPUB; USPAT | AND | ON | 2011/11/08 12:46 |
| L5 | 660 | (color filter) near3 (offset or shift\$4) | US-PGPUB; USPAT | ADJ | ON | 2011/11/08 12:47 |
| L6 | 239 | 5 and @ad< "20020919" | US-PGPUB; USPAT | AND | ON | 2011/11/08 12:47 |
| L7 | 96 | (color filter) near3 (displac\$4) | US-PGPUB; USPAT | ADJ | ON | 2011/11/08 12:47 |
| L8 | 51 | 7 and @ad< "20020919" | US-PGPUB; USPAT | AND | ON | 2011/11/08 12:47 |
| L9 | 98 | (microlens or micro\$lens or micro lens) near3 (displac\$4) | US-PGPUB; USPAT | ADJ | ON | 2011/11/08 12:48 |
| L10 | 35 | 9 and @ad< "20020919" | US-PGPUB; USPAT | AND | ON | 2011/11/08 12:48 |
| L11 | 142 | (microlens or micro\$lens or micro lens) near3 (moved) | US-PGPUB; USPAT | ADJ | ON | 2011/11/08 12:48 |
| L12 | 46 | 11 and @ad< "20020919" | US-PGPUB; USPAT | AND | ON | 2011/11/08 12:48 |
| L13 | 295 | (color filter) near3 (moved) | US-PGPUB; USPAT | ADJ | ON | 2011/11/08 12:48 |
| L14 | 159 | 13 and @ad< "20020919" | US-PGPUB; USPAT | AND | ON | 2011/11/08 12:49 |
| L15 | 1 | ("5620390").PN. | US-PGPUB; USPAT; USOCR | OR | OFF | 2011/11/08 13:01 |
| L16 | 1 | ("5610390").PN. | US-PGPUB; USPAT; USOCR | OR | OFF | 2011/11/08 13:01 |
| L17 | 11 | (color filter layer with micro lens layer).dlm. | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT | ADJ | ON | 2011/11/08 13:15 |
| L25 | 220 | (348/315).CCLS. | US-PGPUB; USPAT; USOCR | OR | OFF | 2011/11/08 13:30 |

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| L26 | 130 | 25 and @ad< "20020919" | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT | ADJ | ON | 2011/11/08 13:30 |
| L27 | 1 | 26 and @pd> "20080424" | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT | ADJ | ON | 2011/11/08 13:31 |
| L28 | 3067 | (348/218.1,267,262,264,263,266,268,272, 275,273,255,264,282,320,322).CCLS. | US-PGPUB; USPAT; USOCR | OR | OFF | 2011/11/08 13:31 |
| L29 | 1408 | 28 and @ad< "20020919" | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT | ADJ | ON | 2011/11/08 13:32 |
| L30 | 0 | 26 and @pd> "20090421" | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT | ADJ | ON | 2011/11/08 13:32 |
| L31 | 5 | 29 and @pd> "20090421" | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT | ADJ | ON | 2011/11/08 13:32 |
| L32 | 360 | (438/80).CCLS. | US-PGPUB; USPAT; USOCR | OR | OFF | 2011/11/08 13:34 |
| L33 | 205 | 32 and @ad< "20020919" | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT | ADJ | ON | 2011/11/08 13:34 |
| L34 | 0 | 33 and @pd> "20090421" | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT | ADJ | ON | 2011/11/08 13:34 |

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| L35 | 0 | 33 and @pd> "20080421" | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT | ADJ | ON | 2011/11/08 13:35 |
| L36 | 0 | 33 and @pd> "20070421" | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT | ADJ | ON | 2011/11/08 13:35 |
| L37 | 12 | 33 and @pd> "20040421" | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT | ADJ | ON | 2011/11/08 13:35 |
| L38 | 66 | micro lens with color filter with (shift\$4 or offset\$4 or displac\$4) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT | ADJ | ON | 2011/11/08 13:36 |
| L39 | 5 | 38 and @ad< "20020919" | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT | ADJ | ON | 2011/11/08 13:37 |
| L40 | 61 | 38 not 39 | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT | ADJ | ON | 2011/11/08 13:38 |
| L41 | 2 | "same" channel with pixel signal | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT | ADJ | ON | 2011/11/08 13:41 |
| L42 | 168851 | ("348").CLAS. | US-PGPUB; USPAT; USOCR | OR | OFF | 2011/11/08 13:41 |
| L43 | 37452 | "same" channel | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT | ADJ | ON | 2011/11/08 13:41 |

EAST Search History (Prior Art)

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| L44 | 2846 | 42 and 43 | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT | ADJ | ON | 2011/11/08 13:41 |
| L45 | 0 | "same" channel with (first or second) light receiving area | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT | ADJ | ON | 2011/11/08 13:42 |
| L46 | 135 | (terutake same kadohara).in. | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT | ADJ | ON | 2011/11/08 13:42 |
| L47 | 1 | 46 and (microlens or micro\$lens or microlens) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT | ADJ | ON | 2011/11/08 13:46 |
| L48 | 2 | 46 and (color filter layer) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT | ADJ | ON | 2011/11/08 13:47 |
| S1 | 1 | ("20040090538").PN. | US-PGPUB; USPAT | OR | OFF | 2008/04/24 13:06 |
| S2 | 6 | ("20020039489" "6002145" "6075905" "6771814" "6791615" "7072509").PN. | US-PGPUB; USPAT | AND | ON | 2008/04/24 13:10 |
| S3 | 160 | (348/315).CQLS. | US-PGPUB; USPAT | OR | OFF | 2008/04/24 15:54 |
| S4 | 129 | S3 and @ad< "20020919" | US-PGPUB; USPAT | AND | ON | 2008/04/24 15:54 |
| S5 | 3 | S4 and (single adj channel) | US-PGPUB; USPAT | AND | ON | 2008/04/24 15:55 |
| S6 | 4 | S4 and (("same" or single) adj channel) | US-PGPUB; USPAT | AND | ON | 2008/04/24 15:55 |
| S7 | 0 | "7262799".pn. and gain | US-PGPUB; USPAT | AND | ON | 2008/04/24 16:08 |
| S8 | 8 | ("1037458").PN. | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2008/04/24 16:14 |

EAST Search History (Prior Art)

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| S9 | 1382 | (348/262,263,264,267,266,267,268,272,273,275).CCL.S. | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2008/04/24 16:51 |
| S10 | 67 | S9 and (("same" or single or one) adj channel) | US-PGPUB; USPAT | AND | ON | 2008/04/24 16:51 |
| S11 | 50 | S10 and @ad< "20020919" | US-PGPUB; USPAT | AND | ON | 2008/04/24 16:52 |
| S12 | 28 | ("20030133019" "4484349" "4598321" "4665440" "4692812" "4797942" "4821103" "5047858" "5153421" "5159455" "5210614" "5220626" "5297222" "5379067" "5432551" "5523788" "5572037" "5598261" "5634067" "5764288" "5805216" "5834782" "5896172" "5953462" "6002492" "6212303" "6396960" "6744931").PN. | US-PGPUB; USPAT; USOCR | AND | ON | 2008/04/24 17:07 |
| S13 | 0 | ("7015966").URPN. | USPAT | AND | ON | 2008/04/24 17:16 |
| S14 | 8 | (masaki same higurashi).in. | USPAT | AND | ON | 2008/04/24 17:20 |
| S15 | 45 | (yasuhiro same komiya).in. | USPAT | AND | ON | 2008/04/24 17:26 |
| S16 | 39 | S15 not S14 | USPAT | AND | ON | 2008/04/24 17:26 |
| S17 | 32 | S16 and @ad< "20020919" | US-PGPUB; USPAT | AND | ON | 2008/04/24 17:26 |
| S18 | 40 | (348/267).CCL.S. | US-PGPUB; USPAT | OR | OFF | 2008/04/25 10:21 |
| S19 | 114 | (348/266).CCL.S. | US-PGPUB; USPAT | OR | OFF | 2008/04/25 10:25 |
| S20 | 90 | S19 and @ad< "20020919" | US-PGPUB; USPAT | AND | ON | 2008/04/25 10:26 |
| S21 | 4 | segmented adj image adj sensor | US-PGPUB; USPAT | AND | ON | 2008/04/25 10:41 |
| S22 | 141 | segmented adj sensor | US-PGPUB; USPAT | AND | ON | 2008/04/25 10:51 |
| S23 | 114868 | ("348").CLAS. | US-PGPUB; USPAT | OR | OFF | 2008/04/25 10:51 |
| S24 | 41487 | ("396").CLAS. | US-PGPUB; USPAT | OR | OFF | 2008/04/25 10:52 |
| S25 | 101936 | ("250").CLAS. | US-PGPUB; USPAT | OR | OFF | 2008/04/25 10:52 |
| S26 | 267708 | ("257").CLAS. | US-PGPUB; USPAT | OR | OFF | 2008/04/25 10:52 |
| S27 | 19 | S22 and (S23 or S24 or S25 or S26) | US-PGPUB; USPAT | AND | ON | 2008/04/25 10:52 |

EAST Search History (Prior Art)

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|-----|----|--|--|-----|-----|------------------|
| S28 | 1 | ("5302997").PN. | US-PGPUB; USPAT | OR | OFF | 2008/04/25 10:53 |
| S29 | 21 | ("4598321" "4665440" "4692812" "4797942" "4821103" "5047858" "5159455" "5210614" "5379067" "5432551" "5477264" "5572037" "5598261" "5606707" "5634067" "5764288" "5805216" "5834782" "5896172" "6337713" "6571022").PN. | US-PGPUB; USPAT; USOCR | AND | ON | 2008/04/25 11:25 |
| S30 | 8 | ("1037458").PN. | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2008/04/25 16:47 |
| S31 | 1 | ("20020071046").PN. | US-PGPUB; USPAT | OR | OFF | 2009/04/20 09:52 |
| S32 | 1 | ("2002/0071046").URPN. | USPAT | AND | ON | 2009/04/20 09:53 |
| S33 | 5 | ("5291294" "5742659" "5969759" "6822213 " "6831688").PN. | USPAT | AND | ON | 2009/04/20 09:54 |
| S34 | 2 | ("20020118291" "4559550" "4837630").PN. | USPAT | AND | ON | 2009/04/20 09:58 |
| S35 | 1 | ("5291294").PN. | USPAT | AND | ON | 2009/04/20 09:58 |
| S36 | 42 | (348/267).OQLS. | US-PGPUB; USPAT | OR | OFF | 2009/04/20 10:02 |
| S37 | 33 | (US-20020039489-\$ or US-20020180877-\$ or US-20020113889-\$ or US-20020085103-\$ or US-20030133019-\$ or US-20050008356-\$ or US-20020071046-\$).did. or (US-7072509-\$ or US-6687026-\$ or US-7015966-\$ or US-7009646-\$ or US-6333760-\$ or US-7161627-\$ or US-6809765-\$ or US-6507011-\$ or US-6744931-\$ or US-6212303-\$ or US-5572037-\$ or US-5047858-\$ or US-6211911-\$ or US-6205259-\$ or US-7071978-\$ or US-6731338-\$ or US-5789737-\$ or US-5204620-\$ or US-6571022-\$ or US-6337713-\$ or US-5896172-\$ or US-5834782-\$ or US-5805216-\$ or US-5742659-\$ or US-6940556-\$).did. or (EP-1037458-\$).did. | US-PGPUB; USPAT; EPO | AND | ON | 2009/04/20 10:07 |
| S38 | 28 | ("20030133019" "4484349" "4598321" "4665440" "4692812" "4797942" "4821103" "5047858" "5153421" "5159455" "5210614" "5220626" "5297222" "5379067" "5432551" "5523788" "5572037" "5598261" "5634067" "5764288" "5805216" "5834782" "5896172" "5953462" "6002492" "6212303" "6396960" "6744931").PN. | US-PGPUB; USPAT; USOCR | AND | ON | 2009/04/20 10:10 |

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| S39 | 0 | ("7015966").URPN. | USPAT | AND | ON | 2009/04/20 10:17 |
| S40 | 14 | ("20020000549" "5321303" "5398275" "5510623" "5629524" "5834782" "5883830" "5886353" "5937027" "5990503" "6115066" "6276605" "6307393" "6456324").PN. | US-PGPUB; USPAT; USOCR | AND | ON | 2009/04/20 10:19 |
| S41 | 0 | ("7009646").URPN. | USPAT | AND | ON | 2009/04/20 10:20 |
| S42 | 25 | ("6205259").URPN. | USPAT | AND | ON | 2009/04/20 10:29 |
| S43 | 357 | (348/218.1).CCL.S. | US-PGPUB; USPAT | OR | OFF | 2009/04/20 10:34 |
| S44 | 189 | S43 and @ad< "20020919" | US-PGPUB; USPAT | AND | ON | 2009/04/20 10:34 |
| S45 | 1 | ("7123298").PN. | US-PGPUB; USPAT | OR | OFF | 2009/04/20 11:48 |
| S46 | 13 | ("20020163095" "3971065" "4323925" "4506294" "4870483" "5353056" "5453840" "5475508" "6069743" "6226084" "6611289" "6766954" "6833873").PN. | US-PGPUB; USPAT; USOCR | AND | ON | 2009/04/20 11:48 |
| S47 | 181 | (348/262).CCL.S. | US-PGPUB; USPAT | OR | OFF | 2009/04/20 11:55 |
| S48 | 103 | S47 and @ad< "20020919" | US-PGPUB; USPAT | AND | ON | 2009/04/20 11:55 |
| S49 | 97 | S48 not (S36 or S43) | US-PGPUB; USPAT | AND | ON | 2009/04/20 11:55 |
| S50 | 110 | (348/263).CCL.S. | US-PGPUB; USPAT | OR | OFF | 2009/04/20 12:11 |
| S51 | 95 | S50 and @ad< "20020919" | US-PGPUB; USPAT | AND | ON | 2009/04/20 12:11 |
| S52 | 92 | S51 not (S48 or S36 or S43) | US-PGPUB; USPAT | AND | ON | 2009/04/20 12:12 |
| S53 | 86 | (348/264).CCL.S. | US-PGPUB; USPAT | OR | OFF | 2009/04/20 12:31 |
| S54 | 73 | S53 and @ad< "20020919" | US-PGPUB; USPAT | AND | ON | 2009/04/20 12:31 |
| S55 | 61 | S54 not (S51 or S48 or S36 or S43) | US-PGPUB; USPAT | AND | ON | 2009/04/20 12:31 |
| S56 | 118 | (348/266).CCL.S. | US-PGPUB; USPAT | OR | OFF | 2009/04/20 12:41 |
| S57 | 90 | S56 and @ad< "20020919" | US-PGPUB; USPAT | AND | ON | 2009/04/20 12:41 |
| S58 | 85 | S57 not (S54 or S51 or S48 or S36 or S43) | US-PGPUB; USPAT | AND | ON | 2009/04/20 12:41 |
| S59 | 32 | (348/268).CCL.S. | US-PGPUB; USPAT | OR | OFF | 2009/04/20 12:49 |

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| S60 | 19 | S59 and @ad< "20020919" | US-PGPUB; USPAT | AND | ON | 2009/04/20 12:49 |
| S61 | 15 | S60 not (S57 or S54 or S51 or S48 or S36 or S43) | US-PGPUB; USPAT | AND | ON | 2009/04/20 12:49 |
| S62 | 110 | (348/275).CCL.S. | US-PGPUB; USPAT | OR | OFF | 2009/04/20 12:55 |
| S63 | 79 | S62 and @ad< "20020919" | US-PGPUB; USPAT | AND | ON | 2009/04/20 12:55 |
| S64 | 75 | S63 not (S60 or S57 or S54 or S51 or S48 or S36 or S43) | US-PGPUB; USPAT | AND | ON | 2009/04/20 12:55 |
| S65 | 428 | (348/272).CCL.S. | US-PGPUB; USPAT | OR | OFF | 2009/04/20 13:22 |
| S66 | 189 | S65 and @ad< "20020919" | US-PGPUB; USPAT | AND | ON | 2009/04/20 13:22 |
| S67 | 157 | S66 not (S63 or S60 or S57 or S54 or S51 or S48 or S36 or S43) | US-PGPUB; USPAT | AND | ON | 2009/04/20 13:22 |
| S68 | 473 | (348/273).CCL.S. | US-PGPUB; USPAT | OR | OFF | 2009/04/20 13:43 |
| S69 | 329 | S68 and @ad< "20020919" | US-PGPUB; USPAT | AND | ON | 2009/04/20 13:43 |
| S70 | 259 | S69 not (S66 or S63 or S60 or S57 or S54 or S51 or S48 or S36 or S43) | US-PGPUB; USPAT | AND | ON | 2009/04/20 13:44 |
| S71 | 475 | ((single or one) near2 (substrate or surface)) with ((plurality or multiple or (more adj than adj one)) with ((image adj sensor) or (image adj pickup) or cod or imager)) | US-PGPUB; USPAT | AND | ON | 2009/04/20 14:25 |
| S72 | 215 | S71 and @ad< "20020919" | US-PGPUB; USPAT | AND | ON | 2009/04/20 14:26 |
| S73 | 208 | S72 not (S69 or S66 or S63 or S60 or S57 or S54 or S51 or S48 or S36 or S43) | US-PGPUB; USPAT | AND | ON | 2009/04/20 14:26 |
| S74 | 152 | (348/255).CCL.S. | US-PGPUB; USPAT | OR | OFF | 2009/04/20 16:27 |
| S75 | 294 | (348/255,265).CCL.S. | US-PGPUB; USPAT | OR | OFF | 2009/04/20 16:27 |
| S76 | 211 | S75 and @ad< "20020919" | US-PGPUB; USPAT | AND | ON | 2009/04/20 16:27 |
| S77 | 170 | S76 not (S72 or S69 or S66 or S63 or S60 or S57 or S54 or S51 or S48 or S36 or S43) | US-PGPUB; USPAT | AND | ON | 2009/04/20 16:27 |
| S78 | 60 | (348/282).CCL.S. | US-PGPUB; USPAT | OR | OFF | 2009/04/20 16:42 |
| S79 | 46 | S78 and @ad< "20020919" | US-PGPUB; USPAT | AND | ON | 2009/04/20 16:42 |
| S80 | 36 | S79 not (S76 or S72 or S69 or S66 or S63 or S60 or S57 or S54 or S51 or S48 or S36 or S43) | US-PGPUB; USPAT | AND | ON | 2009/04/20 16:42 |

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| S81 | 617 | (348/311).CQLS. | US-PGPUB; USPAT | OR | OFF | 2009/04/20 16:50 |
| S82 | 176 | (348/315).CQLS. | US-PGPUB; USPAT | OR | OFF | 2009/04/20 16:50 |
| S83 | 130 | S82 and @ad< "20020919" | US-PGPUB; USPAT | AND | ON | 2009/04/20 16:51 |
| S84 | 102 | S83 not (S79 or S76 or S72 or S69 or S66 or S63 or S60 or S57 or S54 or S51 or S48 or S36 or S43) | US-PGPUB; USPAT | AND | ON | 2009/04/20 16:51 |
| S85 | 28 | ("20030133019" "4484349" "4598321" "4665440" "4692812" "4797942" "4821103" "5047858" "5153421" "5159455" "5210614" "5220626" "5297222" "5379067" "5432551" "5523788" "5572037" "5598261" "5634067" "5764288" "5805216" "5834782" "5896172" "5953462" "6002492" "6212303" "6396960" "6744931").PN. | US-PGPUB; USPAT; USOCR | AND | ON | 2009/04/20 16:55 |
| S86 | 0 | ("7015966").URPN. | USPAT | AND | ON | 2009/04/20 16:57 |
| S87 | 1 | ("7295238").PN. | US-PGPUB; USPAT | OR | OFF | 2009/04/21 10:16 |
| S88 | 1 | ("20020025164").PN. | US-PGPUB; USPAT | OR | OFF | 2009/04/21 10:17 |
| S89 | 3 | ("2002253305").PN. | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2009/04/21 10:30 |
| S90 | 2 | ("2000253305").PN. | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2009/04/21 10:30 |
| S91 | 1 | (divisional adj exposure adj operations) | US-PGPUB; USPAT | AND | ON | 2009/04/21 10:30 |
| S92 | 31 | (terutake same kadohara).in. | US-PGPUB; USPAT | AND | ON | 2009/04/21 10:31 |
| S93 | 53830 | canon.as. | US-PGPUB; USPAT | AND | ON | 2009/04/21 10:32 |
| S94 | 902 | (three near5 regions) same2 cod | US-PGPUB; USPAT | AND | ON | 2009/04/21 10:34 |
| S95 | 35 | S93 and S94 | US-PGPUB; USPAT | AND | ON | 2009/04/21 10:34 |

EAST Search History (Prior Art)

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|----------|-----|---|--|-----|-----|------------------|
| S96 | 73 | cod with (three near3 regions) | US-PGPUB; USPAT | AND | ON | 2009/04/21 10:39 |
| S97 | 41 | S96 and @ad< "20020919" | US-PGPUB; USPAT | AND | ON | 2009/04/21 10:39 |
| S98 | 52 | (image adj sensor) with (three near3 regions) | US-PGPUB; USPAT | AND | ON | 2009/04/21 10:47 |
| S99 | 23 | S98 and @ad< "20020919" | US-PGPUB; USPAT | AND | ON | 2009/04/21 10:47 |
| S10 0 | 348 | (three near3 ((image adj sensor) or cod) with (("same" or single or one) near3 substrate or chip) | US-PGPUB; USPAT | AND | ON | 2009/04/21 10:54 |
| S10 1 | 201 | S100 and @ad< "20020919" | US-PGPUB; USPAT | AND | ON | 2009/04/21 10:55 |
| S10 2 | 10 | pulnix.as. | US-PGPUB; USPAT | AND | ON | 2009/04/21 11:05 |
| S10 3 | 3 | ("7213126").PN. | US-PGPUB; USPAT; USOCR; FPRS; EPC; JPO; DERWENT; IBM_TDB | OR | OFF | 2009/04/21 11:25 |
| S10 4 | 0 | "4873569".pn. and shift | US-PGPUB; USPAT | AND | ON | 2009/04/21 11:46 |
| S10 5 | 8 | ("4873569").URPN. | USPAT | AND | ON | 2009/04/21 11:46 |
| S10 6 | 8 | ("3922069" "4005285" "4262305" "4425577" "4507679" "4641920" "4642679" "4644390").PN. | US-PGPUB; USPAT; USOCR | AND | ON | 2009/04/21 11:47 |
| S10 7 | 1 | ("20020071046").PN. | US-PGPUB; USPAT | OR | OFF | 2009/04/21 12:19 |
| S10 8 | 1 | ("2002/0071046").URPN. | USPAT | AND | ON | 2009/04/21 12:20 |
| S10 9 | 1 | ("7289150").PN. | US-PGPUB; USPAT | OR | OFF | 2009/04/21 12:21 |
| S11 0 | 8 | ("20020118291" "4559550" "4837630" "5291294" "5742659" "5969759" "6822213" "6831688").PN. | US-PGPUB; USPAT; USOCR | AND | ON | 2009/04/21 12:21 |
| S11 1 | 16 | ("5969759").URPN. | USPAT | AND | ON | 2009/04/21 12:23 |
| S11 2 | 13 | ("4216503" "4525741" "5070414" "5153929" "5260794" "5737015" "5940125" "5969759" "6084634" "6337713" "6700609" "6721009" "6791615").PN. | US-PGPUB; USPAT; USOCR | AND | ON | 2009/04/21 12:25 |
| S11 3 | 4 | ("7050098").URPN. | USPAT | AND | ON | 2009/04/21 12:27 |

EAST Search History (Prior Art)

| | | | | | | |
|----------|------|--|--|-----|-----|------------------|
| S11 4 | 14 | ("20010021008" "20020003973" "20030020819" "5396286" "5497192" "5764871" "5838837" "5883663" "6288756" "6337951" "6397334" "6407747" "7050098" "7106370").PN. | US-PGPUB; USPAT; USOCR | AND | ON | 2009/04/21 12:28 |
| S11 5 | 8 | ("20010022858" "5515102" "5737015" "6072603" "6101287" "6337713" "6608648" "6791608").PN. | US-PGPUB; USPAT; USOCR | AND | ON | 2009/04/21 12:28 |
| S11 6 | 16 | ("20020140830" "20050007475" "20060197853" "20070098300" "5386228" "5737015" "6211911" "6337713" "6433822" "6731338" "6768102" "6791615" "6804406" "7019775" "7050098" "7215364").PN. | US-PGPUB; USPAT; USOCR | AND | ON | 2009/04/21 12:31 |
| S11 7 | 4 | ("5737015" "6552744" "6791615" "7050098").PN. | US-PGPUB; USPAT; USOCR | AND | ON | 2009/04/21 12:34 |
| S11 8 | 7 | ("4575763" "4647977" "4835616" "5491512" "5742081" "5748232" "5969759").PN. | US-PGPUB; USPAT; USOCR | AND | ON | 2009/04/21 12:35 |
| S11 9 | 1 | ("20020067416").PN. | US-PGPUB; USPAT | OR | OFF | 2009/04/21 12:47 |
| S12 0 | 7 | ("4323925" "5436662" "5694165" "5742659" "5896172" "5969759" "6337713").PN. | US-PGPUB; USPAT; USOCR | AND | ON | 2009/04/21 12:51 |
| S12 1 | 220 | ((yusuke same shirakawa) or (shinichi same hagiwara)).in. | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | AND | ON | 2009/04/21 12:56 |
| S12 2 | 161 | S121 and (@ad<"20020913" or @pd<"20020913") | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | AND | ON | 2009/04/21 12:57 |
| S12 3 | 6417 | (one or single) near2 ((horizontal adj shift adj register) or channel) with image | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | AND | ON | 2009/04/21 13:16 |

EAST Search History (Prior Art)

| | | | | | | |
|----------|------|---|--|-----|-----|------------------|
| S12 4 | 7404 | (one or single or "same") near2 ((horizontal adj shift adj register) or channel) with image | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | AND | ON | 2009/04/21 13:16 |
| S12 5 | 112 | (one or single or "same") near2 ((horizontal adj shift adj register) or channel) with image with (readout or (read adj out)) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | AND | ON | 2009/04/21 13:17 |
| S12 6 | 79 | S125 and (@ad< "20020913" or @pd< "20020913") | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | AND | ON | 2009/04/21 13:17 |
| S12 7 | 21 | ("4598321" "4665440" "4692812" "4797942" "4821103" "5047858" "5159455" "5210614" "5379067" "5432551" "5477264" "5572037" "5598261" "5606707" "5634067" "5764288" "5805216" "5834782" "5896172" "6337713" "6571022").PN. | US-PGPUB; USPAT; USOCR | AND | ON | 2009/04/21 13:32 |
| S12 8 | 9 | ("4692812" "4797942" "4980771" "5285286" "5396091" "5606427" "5727116" "5896172" "5969759").PN. | US-PGPUB; USPAT; USOCR | AND | ON | 2009/04/21 13:36 |
| S12 9 | 267 | (348/322,320).CQLS. | US-PGPUB; USPAT | OR | OFF | 2009/04/21 13:49 |
| S13 0 | 42 | (348/267).CQLS. | US-PGPUB; USPAT | OR | OFF | 2009/04/21 13:50 |
| S13 1 | 357 | (348/218.1).CQLS. | US-PGPUB; USPAT | OR | OFF | 2009/04/21 13:50 |
| S13 2 | 181 | (348/262).CQLS. | US-PGPUB; USPAT | OR | OFF | 2009/04/21 13:50 |
| S13 3 | 103 | S132 and @ad< "20020919" | US-PGPUB; USPAT | AND | ON | 2009/04/21 13:50 |
| S13 4 | 110 | (348/263).CQLS. | US-PGPUB; USPAT | OR | OFF | 2009/04/21 13:50 |
| S13 5 | 95 | S134 and @ad< "20020919" | US-PGPUB; USPAT | AND | ON | 2009/04/21 13:50 |
| S13 6 | 86 | (348/264).CQLS. | US-PGPUB; USPAT | OR | OFF | 2009/04/21 13:50 |
| S13 7 | 73 | S136 and @ad< "20020919" | US-PGPUB; USPAT | AND | ON | 2009/04/21 13:50 |

EAST Search History (Prior Art)

| | | | | | | |
|----------|-----|---|--------------------|-----|-----|------------------|
| S13 8 | 118 | (348/266).CQLS. | US-PGPUB; USPAT | OR | OFF | 2009/04/21 13:50 |
| S13 9 | 90 | S138 and @ad< "20020919" | US-PGPUB; USPAT | AND | ON | 2009/04/21 13:50 |
| S14 0 | 32 | (348/268).CQLS. | US-PGPUB; USPAT | OR | OFF | 2009/04/21 13:50 |
| S14 1 | 19 | S140 and @ad< "20020919" | US-PGPUB; USPAT | AND | ON | 2009/04/21 13:50 |
| S14 2 | 110 | (348/275).CQLS. | US-PGPUB; USPAT | OR | OFF | 2009/04/21 13:50 |
| S14 3 | 79 | S142 and @ad< "20020919" | US-PGPUB; USPAT | AND | ON | 2009/04/21 13:50 |
| S14 4 | 428 | (348/272).CQLS. | US-PGPUB; USPAT | OR | OFF | 2009/04/21 13:50 |
| S14 5 | 189 | S144 and @ad< "20020919" | US-PGPUB; USPAT | AND | ON | 2009/04/21 13:50 |
| S14 6 | 473 | (348/273).CQLS. | US-PGPUB; USPAT | OR | OFF | 2009/04/21 13:50 |
| S14 7 | 329 | S146 and @ad< "20020919" | US-PGPUB; USPAT | AND | ON | 2009/04/21 13:50 |
| S14 8 | 476 | ((single or one) near2 (substrate or surface)) with ((plurality or multiple or (more adj than adj one)) with ((image adj sensor) or (image adj pickup) or cod or imager)) | US-PGPUB; USPAT | AND | ON | 2009/04/21 13:50 |
| S14 9 | 215 | S148 and @ad< "20020919" | US-PGPUB; USPAT | AND | ON | 2009/04/21 13:50 |
| S15 0 | 295 | (348/255,265).CQLS. | US-PGPUB; USPAT | OR | OFF | 2009/04/21 13:50 |
| S15 1 | 211 | S150 and @ad< "20020919" | US-PGPUB; USPAT | AND | ON | 2009/04/21 13:50 |
| S15 2 | 60 | (348/282).CQLS. | US-PGPUB; USPAT | OR | OFF | 2009/04/21 13:50 |
| S15 3 | 46 | S152 and @ad< "20020919" | US-PGPUB; USPAT | AND | ON | 2009/04/21 13:50 |
| S15 4 | 247 | S129 not (S153 or S151 or S149 or S147 or S145 or S143 or S141 or S139 or S137 or S135 or S133 or S130 or S131) | US-PGPUB; USPAT | AND | ON | 2009/04/21 13:50 |
| S15 5 | 214 | S154 and @ad< "20020919" | US-PGPUB; USPAT | AND | ON | 2009/04/21 13:50 |
| S15 6 | 8 | combiner adj card | US-PGPUB; USPAT | AND | ON | 2009/04/21 15:24 |
| S15 7 | 24 | (combiner or repetition) adj card | US-PGPUB; USPAT | AND | ON | 2009/04/21 15:24 |
| S15 8 | 5 | ((combiner or repetition) adj card).dm. | US-PGPUB; USPAT | AND | ON | 2009/04/21 15:24 |

EAST Search History (Prior Art)

| | | | | | | |
|----------|------|--|------------------------------|-----|-----|------------------|
| S15 9 | 1 | ("7324142").PN. | US-PGPUB; USPAT | OR | OFF | 2009/04/21 15:26 |
| S16 0 | 4471 | (250/208.1).CCL.S. | US-PGPUB; USPAT | OR | OFF | 2009/08/03 16:03 |
| S16 1 | 1250 | S160 and exposure | US-PGPUB; USPAT | AND | ON | 2009/08/03 16:03 |
| S16 2 | 46 | S160 and (manufactur\$4 with exposure) | US-PGPUB; USPAT | AND | ON | 2009/08/03 16:03 |
| S16 3 | 18 | S162 and @ad< "20020919" | US-PGPUB; USPAT | AND | ON | 2009/08/03 16:05 |
| S16 4 | 44 | S160 and (plurality near4 exposure) | US-PGPUB; USPAT | AND | ON | 2009/08/03 16:09 |
| S16 5 | 28 | S164 and @ad< "20020919" | US-PGPUB; USPAT | AND | ON | 2009/08/03 16:10 |
| S16 6 | 473 | (359/238).CCL.S. | US-PGPUB; USPAT | OR | OFF | 2009/08/04 12:44 |
| S16 7 | 28 | S166 and wavefront | US-PGPUB; USPAT | AND | ON | 2009/08/04 12:44 |
| S16 8 | 49 | giglio.xa. | US-PGPUB; USPAT | AND | ON | 2009/08/04 12:48 |
| S16 9 | 27 | segmented near cod | US-PGPUB; USPAT | AND | ON | 2009/08/04 15:10 |
| S17 0 | 28 | ("20030133019" "4484349" "4598321" "4665440" "4692812" "4797942" "4821103" "5047858" "5153421" "5159455" "5210614" "5220626" "5297222" "5379067" "5432551" "5523788" "5572037" "5598261" "5634067" "5764288" "5805216" "5834782" "5896172" "5953462" "6002492" "6212303" "6396960" "6744931").PN. | US-PGPUB; USPAT; USOCR | AND | ON | 2009/08/04 15:11 |
| S17 1 | 0 | ("7015966").URPN. | USPAT | AND | ON | 2009/08/04 15:19 |
| S17 2 | 261 | (438/80).CCL.S. | US-PGPUB; USPAT | OR | OFF | 2009/08/04 16:29 |
| S17 3 | 205 | S172 and @ad< "20020919" | US-PGPUB; USPAT | AND | ON | 2009/08/04 16:29 |
| S17 4 | 1 | "6352875".pn. and output | US-PGPUB; USPAT | AND | ON | 2009/08/04 16:42 |
| S17 5 | 7 | ("4537827" "4957882" "4999077" "4999484" "5068713" "5121225" "5856699").PN. | US-PGPUB; USPAT; USOCR | AND | ON | 2009/08/04 16:44 |
| S17 6 | 0 | "4999484".pn. and output | US-PGPUB; USPAT; USOCR | AND | ON | 2009/08/04 16:46 |
| S17 7 | 22 | ("4999484").URPN. | USPAT | AND | ON | 2009/08/04 16:46 |

EAST Search History (Prior Art)

| | | | | | | |
|----------|--------|--|------------------------------|-----|-----|------------------|
| S17 8 | 3 | ("4418284" "4467342" "4523102").PN. | US-PGPUB; USPAT; USOCR | AND | ON | 2009/08/04 16:50 |
| S17 9 | 74 | ("4467342").URPN. | USPAT | AND | ON | 2009/08/04 16:51 |
| S18 0 | 1 | "5834782".pn. and output | USPAT | AND | ON | 2009/08/04 16:56 |
| S18 1 | 1 | "5105087".pn. and output | USPAT | AND | ON | 2009/08/04 16:59 |
| S18 2 | 29 | ("4999077").URPN. | USPAT | AND | ON | 2009/08/04 17:04 |
| S18 3 | 0 | "7164506".pn. and correct\$4 | USPAT | AND | ON | 2009/08/04 17:16 |
| S18 4 | 0 | "7164506".pn. and correct\$6 | USPAT | AND | ON | 2009/08/04 17:17 |
| S18 5 | 0 | "7164506".pn. and dimension\$4 | USPAT | AND | ON | 2009/08/04 17:18 |
| S18 6 | 10 | ("4567529" "4691114" "4737854" "4940325" "4999077" "5160945" "5528272" "6014160" "6133952" "7042491").PN. | US-PGPUB; USPAT; USOCR | AND | ON | 2009/08/04 17:20 |
| S18 7 | 1 | ("7042491" or "7164506").pn. and color | US-PGPUB; USPAT; USOCR | AND | ON | 2009/08/04 17:33 |
| S18 8 | 473 | (sensitivity near3 correct\$4) with color | US-PGPUB; USPAT; USOCR | AND | ON | 2009/08/04 17:51 |
| S18 9 | 48 | (sensitivity near3 correct\$4) with color with different | US-PGPUB; USPAT; USOCR | AND | ON | 2009/08/04 17:52 |
| S19 0 | 26 | S189 and @ad< "20020919" | US-PGPUB; USPAT | AND | ON | 2009/08/04 17:52 |
| S19 1 | 0 | "7042491".pn. and multipl\$5 | US-PGPUB; USPAT | AND | ON | 2009/08/05 09:54 |
| S19 2 | 1 | "7042491".pn. and add\$4 | US-PGPUB; USPAT | AND | ON | 2009/08/05 09:55 |
| S19 3 | 1 | "7164506".pn. and color | US-PGPUB; USPAT | AND | ON | 2009/08/05 10:15 |
| S19 4 | 1 | "7042491".pn. and lens | US-PGPUB; USPAT | AND | ON | 2009/08/05 11:09 |
| S19 5 | 0 | "7164506".pn. and lens | US-PGPUB; USPAT | AND | ON | 2009/08/05 11:10 |
| S19 6 | 133386 | ("348").CLAS. | US-PGPUB; USPAT | OR | OFF | 2009/08/05 14:33 |
| S19 7 | 103 | S196 and (negative adj gain) | US-PGPUB; USPAT | AND | ON | 2009/08/05 14:33 |

EAST Search History (Prior Art)

| | | | | | | |
|----------|------|---|--|-----|-----|------------------|
| S19 8 | 2 | S196 and (chang\$4 with (negative adj gain)) | US-PGPUB; USPAT | AND | ON | 2009/08/05 14:33 |
| S19 9 | 3 | ("20020154225" "20030001958" "5920342").PN. | US-PGPUB; USPAT | AND | ON | 2009/08/05 14:34 |
| S20 0 | 4 | ("2002/0154225").URPN. | USPAT | AND | ON | 2009/08/05 14:42 |
| S20 1 | 0 | "6882363".pn. and (digital near3 gain) | USPAT | AND | ON | 2009/08/05 14:43 |
| S20 2 | 1 | ("5831676").PN. | US-PGPUB; USPAT | OR | OFF | 2009/08/05 14:45 |
| S20 3 | 0 | S202 and (digital near3 gain) | US-PGPUB; USPAT | AND | ON | 2009/08/05 14:45 |
| S20 4 | 0 | S202 and (digital near6 gain) | US-PGPUB; USPAT | AND | ON | 2009/08/05 14:46 |
| S20 5 | 1 | S202 and (digital near6 gain) | US-PGPUB; USPAT | AND | ON | 2009/08/05 14:46 |
| S20 6 | 24 | ("5831676").URPN. | USPAT | AND | ON | 2009/08/05 14:48 |
| S20 7 | 5 | S206 and (digital near5 gain) | USPAT | AND | ON | 2009/08/05 14:48 |
| S20 8 | 9 | ("4534639" "4606065" "4769668" "4910600" "5053871" "5128769" "5184169" "5194960" "5212557").PN. | US-PGPUB; USPAT; USOCR | AND | ON | 2009/08/05 14:53 |
| S20 9 | 3998 | (358/474).CCLS. | US-PGPUB; USPAT | OR | OFF | 2010/05/07 09:55 |
| S21 0 | 53 | S209 and frame adj memory | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT | ADJ | ON | 2010/05/07 09:57 |
| S21 1 | 24 | S209 and frame adj memory same correct\$4 | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT | ADJ | ON | 2010/05/07 09:57 |
| S21 2 | 21 | S211 and @ad< "20020919" | US-PGPUB; USPAT | AND | ON | 2010/05/07 09:57 |
| S21 3 | 60 | (image adj sensor adj bar) | US-PGPUB; USPAT | AND | ON | 2010/05/07 10:18 |
| S21 4 | 23 | (image adj sensor adj bar) and correct\$4 | US-PGPUB; USPAT | AND | ON | 2010/05/07 10:18 |
| S21 5 | 14 | S214 and @ad< "20020919" | US-PGPUB; USPAT | AND | ON | 2010/05/07 10:18 |
| S21 6 | 9 | (line adj sensor adj bar) and correct\$4 | US-PGPUB; USPAT | AND | ON | 2010/05/07 10:45 |

EAST Search History (Prior Art)

| | | | | | | |
|----------|-------|--|------------------------------|-----|-----|------------------|
| S21 7 | 1 | ("7164506").PN. | US-PGPUB; USPAT | OR | OFF | 2010/05/07 10:47 |
| S21 8 | 10 | ("4567529" "4691114" "4737854" "4940325" "4999077" "5160945" "5528272" "6014160" "6133952" "7042491").PN. | US-PGPUB; USPAT; USOCR | ADJ | ON | 2010/05/07 10:47 |
| S21 9 | 3 | S218 and correct\$4 | US-PGPUB; USPAT | AND | ON | 2010/05/07 10:49 |
| S22 0 | 38120 | linear adj array | US-PGPUB; USPAT | AND | ON | 2010/05/07 10:52 |
| S22 1 | 4016 | (linear adj array) with sensor | US-PGPUB; USPAT | AND | ON | 2010/05/07 10:52 |
| S22 2 | 0 | (linear adj array) with sensor same sensitivity | US-PGPUB; USPAT | AND | ON | 2010/05/07 10:52 |
| S22 3 | 147 | (linear adj array) with sensor same sensitivity | US-PGPUB; USPAT | AND | ON | 2010/05/07 10:52 |
| S22 4 | 6 | (linear adj array) with sensor same sensitivit\$4 near4 difference | US-PGPUB; USPAT | AND | ON | 2010/05/07 10:53 |
| S22 5 | 10 | (linear adj array) same sensitivit\$4 near4 difference | US-PGPUB; USPAT | AND | ON | 2010/05/07 10:54 |
| S22 6 | 7 | S225 and @ad< "20020919" | US-PGPUB; USPAT | AND | ON | 2010/05/07 10:55 |
| S22 7 | 10 | (adjacent near3 sensors) same sensitivit\$4 near4 difference | US-PGPUB; USPAT | AND | ON | 2010/05/07 10:56 |
| S22 8 | 3 | S227 and @ad< "20020919" | US-PGPUB; USPAT | AND | ON | 2010/05/07 10:56 |
| S22 9 | 4 | ("4652119" "5483336" "5721977" "6263164").PN. | US-PGPUB; USPAT; USOCR | ADJ | ON | 2010/05/07 10:59 |
| S23 0 | 3036 | linear ccd | US-PGPUB; USPAT; USOCR | ADJ | ON | 2010/05/07 11:00 |
| S23 1 | 4 | linear ccd same (sensitivit\$4 near3 difference) | US-PGPUB; USPAT; USOCR | ADJ | ON | 2010/05/07 11:00 |
| S23 2 | 1 | "4926251".pn. and frame | US-PGPUB; USPAT; USOCR | ADJ | ON | 2010/05/07 11:09 |
| S23 3 | 1 | "4926251".pn. and memory | US-PGPUB; USPAT; USOCR | ADJ | ON | 2010/05/07 11:10 |
| S23 4 | 2 | linear ccd same (correct\$4 near3 difference) | US-PGPUB; USPAT; USOCR | ADJ | ON | 2010/05/07 11:16 |
| S23 5 | 44 | linear near3 (ccd or (image adj sensor) or photosensor) same ((correct\$4 or eliminat\$4) near4 difference) | US-PGPUB; USPAT; USOCR | ADJ | ON | 2010/05/07 11:20 |

EAST Search History (Prior Art)

| | | | | | | |
|----------|-------|---|--------------------|-----|----|------------------|
| S23 6 | 33 | S235 and @ad< "20020919" | US-PGPUB; USPAT | AND | ON | 2010/05/07 11:21 |
| S23 7 | 16294 | adjacent linear near3 (cod or sensor) | US-PGPUB; USPAT | AND | ON | 2010/05/07 11:25 |
| S23 8 | 750 | adjacent linear near3 (cod or sensor) with correct\$4 | US-PGPUB; USPAT | AND | ON | 2010/05/07 11:25 |
| S23 9 | 5 | adjacent linear near3 (cod or sensor) with ((correct\$4 or eliminat\$4) near3 difference) | US-PGPUB; USPAT | AND | ON | 2010/05/07 11:26 |
| S24 0 | 0 | adjacent adj linear near3 (cod or sensor) with ((correct\$4 or eliminat\$4) near3 difference) | US-PGPUB; USPAT | AND | ON | 2010/05/07 11:30 |
| S24 1 | 114 | adjacent adj linear near3 (cod or sensor) | US-PGPUB; USPAT | AND | ON | 2010/05/07 11:31 |
| S24 2 | 1 | adjacent adj linear near3 (cod or sensor) with (correct\$4 or eliminat\$4) | US-PGPUB; USPAT | AND | ON | 2010/05/07 11:31 |
| S24 3 | 1 | "4891690".pn. and correct\$4 | US-PGPUB; USPAT | AND | ON | 2010/05/07 11:36 |
| S24 4 | 758 | 358/514 | US-PGPUB; USPAT | AND | ON | 2010/05/07 11:38 |
| S24 5 | 61 | S244 and ((correct\$4 or eliminat\$4) near3 differences) | US-PGPUB; USPAT | AND | ON | 2010/05/07 11:38 |
| S24 6 | 43 | S245 and @ad< "20020919" | US-PGPUB; USPAT | AND | ON | 2010/05/07 11:38 |
| S24 7 | 49 | cutler.xa. | US-PGPUB; USPAT | AND | ON | 2010/05/07 11:48 |
| S24 8 | 67 | pasiewicz.xa. | US-PGPUB; USPAT | AND | ON | 2010/05/07 11:48 |
| S24 9 | 14 | schnurr.xa. | US-PGPUB; USPAT | AND | ON | 2010/05/07 11:48 |
| S25 0 | 24 | short line sensors | US-PGPUB; USPAT | ADJ | ON | 2010/05/07 11:53 |
| S25 1 | 21 | S250 and difference | US-PGPUB; USPAT | ADJ | ON | 2010/05/07 11:53 |
| S25 2 | 9 | S251 and @ad< "20020919" | US-PGPUB; USPAT | AND | ON | 2010/05/07 11:54 |
| S25 3 | 69 | (short adj line) near2 (cod or sensor or imag\$4) | US-PGPUB; USPAT | AND | ON | 2010/05/07 15:25 |
| S25 4 | 59 | S253 and (correct\$4 or difference) | US-PGPUB; USPAT | AND | ON | 2010/05/07 15:25 |
| S25 5 | 38 | S254 not S251 | US-PGPUB; USPAT | AND | ON | 2010/05/07 15:26 |
| S25 6 | 26 | S255 and @ad< "20020919" | US-PGPUB; USPAT | AND | ON | 2010/05/07 15:26 |
| S25 7 | 84 | S209 and (sensitivit\$4 near3 differen\$3) | US-PGPUB; USPAT | AND | ON | 2010/05/07 15:32 |

EAST Search History (Prior Art)

| | | | | | | |
|----------|--------|--|--|-----|-----|------------------|
| S25 8 | 42 | S257 and @ad< "20020919" | US-PGPUB; USPAT | AND | ON | 2010/05/07 15:33 |
| S25 9 | 0 | "6069973".pn. and lens | US-PGPUB; USPAT | AND | ON | 2010/05/08 11:22 |
| S26 0 | 0 | "7164506".pn. and lens | US-PGPUB; USPAT | AND | ON | 2010/05/08 11:23 |
| S26 1 | 146325 | ("348").CLAS. | US-PGPUB; USPAT | OR | OFF | 2010/10/18 12:10 |
| S26 2 | 6 | S261 and (single output register) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT | ADJ | ON | 2010/10/18 12:10 |
| S26 3 | 0 | "4263620".pn. and (red or green or blue or color) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT | ADJ | ON | 2010/10/18 12:12 |
| S26 4 | 0 | "4263620".pn. and (red or green or blue or color or bayer) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT | ADJ | ON | 2010/10/18 12:13 |
| S26 5 | 90 | S261 and (single shift register) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT | ADJ | ON | 2010/10/18 12:15 |
| S26 6 | 75 | S265 and @ad< "20020919" | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT | ADJ | ON | 2010/10/18 12:15 |
| S26 7 | 0 | "20030227656".pn. and bayer | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT | ADJ | ON | 2010/10/18 12:16 |
| S26 8 | 13 | S266 and (bayer or red or green or blue) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT | ADJ | ON | 2010/10/18 12:17 |

EAST Search History (Prior Art)

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| S26 9 | 32 | S266 and (bayer or red or green or blue or color) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT | ADJ | ON | 2010/10/18 12:18 |
| S27 0 | 361 | S261 and (one (shift or readout) register) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT | ADJ | ON | 2010/10/18 12:24 |
| S27 1 | 134 | S270 and (bayer or red or green or blue) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT | ADJ | ON | 2010/10/18 12:25 |
| S27 2 | 65 | S271 and @ad< "20020919" | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT | ADJ | ON | 2010/10/18 12:25 |
| S27 3 | 62 | (348/291).CCL.S | US-PGPUB; USPAT | OR | OFF | 2010/10/18 12:46 |
| S27 4 | 2 | S273 and bayer | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT | ADJ | ON | 2010/10/18 12:46 |
| S27 5 | 157 | bayer and ((cods or "cod's") near3 connect\$4) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT | ADJ | ON | 2010/10/18 12:48 |
| S27 6 | 26 | S275 and @ad< "20020919" | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT | ADJ | ON | 2010/10/18 12:48 |
| S27 7 | 95 | (multi\$chip or (multiple adj chip)) (cod or (image sensor) or imager) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT | ADJ | ON | 2010/10/18 12:57 |

EAST Search History (Prior Art)

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| S27 8 | 58 | S277 and @ad< "20020919" | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT | ADJ | ON | 2010/10/18 12:57 |
| S27 9 | 16 | ("4567529" "4691114" "4737854" "4940325 "4999077" "5160945" "5528272" "601416 0").PN. | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT | ADJ | ON | 2010/10/18 12:59 |
| S28 0 | 5 | ("4567529" "4691114" "4737854" "5003380" "5528272").PN. | US-PGPUB; USPAT; USOCR | ADJ | ON | 2010/10/18 13:00 |
| S28 1 | 10 | ("4567529" "4691114" "4737854" "4940325" "4999077" "5160945" "5528272" "6014160" "6133952").PN. "7042491").PN. | US-PGPUB; USPAT; USOCR | ADJ | ON | 2010/10/18 13:02 |
| S28 2 | 0 | "6545776".pn. and (bayer or red or green or blue) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT | ADJ | ON | 2010/10/18 13:05 |
| S28 3 | 0 | "5587814".pn. and bayer | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT | ADJ | ON | 2010/10/18 13:25 |
| S28 4 | 17 | ("5587814").URPN. | USPAT | ADJ | ON | 2010/10/18 13:26 |
| S28 5 | 0 | "4987295".pn. and shift | USPAT | ADJ | ON | 2010/10/18 14:19 |
| S28 6 | 4 | ("4987295").URPN. | USPAT | ADJ | ON | 2010/10/18 14:19 |
| S28 7 | 221 | (348/208.1).CQLS. | US-PGPUB; USPAT | OR | OFF | 2010/10/18 14:22 |
| S28 8 | 55 | S287 and @ad< "20020919" | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT | ADJ | ON | 2010/10/18 14:22 |
| S28 9 | 10656 | 250/208.1 | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT | ADJ | ON | 2010/10/18 14:48 |

EAST Search History (Prior Art)

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|----------|------|-----------------------------------|--|-----|----|------------------|
| S29 0 | 5184 | S289 and @ad< "20020919" | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT | ADJ | ON | 2010/10/18 14:50 |
| S29 1 | 840 | S290 and shift register | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT | ADJ | ON | 2010/10/18 14:51 |
| S29 2 | 21 | S290 and shift register and bayer | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT | ADJ | ON | 2010/10/18 14:51 |
| S29 3 | 311 | S261 and (common output line) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT | ADJ | ON | 2010/10/18 15:28 |
| S29 4 | 195 | S293 and @ad< "20020919" | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT | ADJ | ON | 2010/10/18 15:28 |
| S29 5 | 0 | "20030043415".pn. and bayer | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT | ADJ | ON | 2010/10/18 15:31 |
| S29 6 | 1 | "20020067416".pn. and bayer | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT | ADJ | ON | 2010/10/18 15:36 |
| S29 7 | 1 | "20020067416".pn. and "110" | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT | ADJ | ON | 2010/10/18 15:50 |

EAST Search History (Prior Art)

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|----------|-------|---|--|-----|----|------------------|
| S29 8 | 1 | "20020067416".pn. and correct\$4 | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT | ADJ | ON | 2010/10/18 16:03 |
| S29 9 | 1 | "20020067416".pn. and oxide | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT | ADJ | ON | 2010/10/18 16:13 |
| S30 0 | 70 | (buttable or butted) near3 (image sensors or cods or imaging devices or imagers) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT | ADJ | ON | 2010/10/18 16:55 |
| S30 1 | 48 | S300 and @ad< "20020919" | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT | ADJ | ON | 2010/10/18 16:55 |
| S30 2 | 0 | "20030169847".pn. and bayer | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT | ADJ | ON | 2010/10/18 17:00 |
| S30 3 | 0 | "20030169847".pn. and (red same green same blue) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT | ADJ | ON | 2010/10/18 17:00 |
| S30 4 | 0 | "7333146".pn. and (bayer or red same green same blue) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT | ADJ | ON | 2010/10/18 17:02 |
| S30 5 | 0 | "7009646".pn. and (bayer or red same green same blue) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT | ADJ | ON | 2010/10/18 17:03 |
| S30 6 | 19847 | expos\$4 with imag\$4 with substrate | US-PGPUB; USPAT | AND | ON | 2010/10/19 09:53 |
| S30 7 | 526 | expos\$4 near2 (operation) with imag\$4 with substrate | US-PGPUB; USPAT | AND | ON | 2010/10/19 09:53 |

EAST Search History (Prior Art)

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|----------|-------|--|------------------------------|-----|----|------------------|
| S30 8 | 127 | S307 and @ad<"20030916" | US-PGPUB; USPAT | AND | ON | 2010/10/19 09:54 |
| S30 9 | 113 | S307 and @ad<"20020919" | US-PGPUB; USPAT | AND | ON | 2010/10/19 09:54 |
| S31 0 | 16161 | segmented (imager or image sensor or cod) | US-PGPUB; USPAT | AND | ON | 2010/10/19 10:09 |
| S31 1 | 37 | segmented (imager or image sensor or cod) | US-PGPUB; USPAT | ADJ | ON | 2010/10/19 10:09 |
| S31 2 | 5 | ("20040090538" "20040119854" "20050134 698" "6731338" "7015966").PN. | US-PGPUB; USPAT | ADJ | ON | 2010/10/19 10:10 |
| S31 3 | 3 | ("5896172" "6337713" "6571022").PN. | US-PGPUB; USPAT | ADJ | ON | 2010/10/19 10:13 |
| S31 4 | 19 | ("5896172").URPN. | USPAT | ADJ | ON | 2010/10/19 10:14 |
| S31 5 | 1 | "7295238".pn. and "5" | USPAT | ADJ | ON | 2010/10/19 10:20 |
| S31 6 | 6 | ("4525741" "5047861" "5379125" "5896172" "6337713" "6791615").PN. | US-PGPUB; USPAT; USOCR | ADJ | ON | 2010/10/19 10:21 |
| S31 7 | 28 | ("20030133019" "4484349" "4598321" "4665440" "4692812" "4797942" "4821103" "5047858" "5153421" "5159455" "5210614" "5220626" "5297222" "5379067" "5432551" "5523788" "5572037" "5598261" "5634067" "5764288" "5805216" "5834782" "5896172" "5953462" "6002492" "6212303" "6396960" "6744931").PN. | US-PGPUB; USPAT; USOCR | ADJ | ON | 2010/10/19 10:23 |
| S31 8 | 7 | ("4323925" "5436662" "5694165" "5742659" "5896172" "5969759" "6337713").PN. | US-PGPUB; USPAT; USOCR | ADJ | ON | 2010/10/19 11:04 |
| S31 9 | 0 | "5742659".pn. and filter | US-PGPUB; USPAT; USOCR | ADJ | ON | 2010/10/19 11:06 |
| S32 0 | 0 | "4323925".pn. and filter | US-PGPUB; USPAT; USOCR | ADJ | ON | 2010/10/19 11:07 |
| S32 1 | 0 | "20010015755".pn. and (color or red or green or blue or bayer) | US-PGPUB; USPAT; USOCR | ADJ | ON | 2010/10/19 11:13 |

EAST Search History (Prior Art)

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|----------|----|---|--|-----|-----|------------------|
| S32 2 | 91 | (US-20020039489-\$ or US-20020180877-\$ or US-20020113889-\$ or US-20020085103-\$ or US-20030133019-\$ or US-20050008356-\$ or US-20020071046-\$ or US-20020147383-\$ or US-20020125409-\$ or US-20030045916-\$ or US-20020067416-\$ or US-20020176605-\$ or US-20020154225-\$ or US-20020191229-\$ or US-20030227656-\$ or US-20030169847-\$ or US-20010015755-\$).did. or (US-7072509-\$ or US-6687026-\$ or US-7015966-\$ or US-7009646-\$ or US-6333760-\$ or US-7161627-\$ or US-6809765-\$ or US-6507011-\$ or US-6744931-\$ or US-6212303-\$ or US-5572037-\$ or US-5047858-\$ or US-6211911-\$ or US-6205259-\$ or US-7071978-\$ or US-6731338-\$ or US-5789737-\$ or US-5204620-\$ or US-6571022-\$ or US-6337713-\$ or US-5896172-\$ or US-5834782-\$ or US-5805216-\$ or US-5742659-\$ or US-6940556-\$ or US-4598321-\$).did. or (US-7154515-\$ or US-6630952-\$ or US-5940126-\$ or US-6833873-\$ or US-7050101-\$ or US-6320618-\$ or US-6184516-\$ or US-7295238-\$ or US-6829008-\$ or US-5604781-\$ or US-6803956-\$ or US-6002287-\$ or US-5977535-\$ or US-5929432-\$ or US-5471243-\$ or US-5365352-\$ or US-4873569-\$ or US-4264921-\$ or US-6952228-\$ or US-5541400-\$ or US-4701798-\$ or US-6753518-\$ or US-6352875-\$ or US-4999484-\$ or US-6335528-\$ or US-5856699-\$ or US-4467342-\$).did. or (US-6408110-\$ or US-5105087-\$ or US-4663656-\$ or US-4999077-\$ or US-7164506-\$ or US-7042491-\$ or US-6014160-\$ or US-4926251-\$ or US-7106370-\$ or US-5361145-\$ or US-5253083-\$ or US-4263620-\$ or US-6646682-\$ or US-6069973-\$ or US-7164509-\$ or US-7333146-\$ or US-6515734-\$).did. or (EP-1037458-\$).did. or (JP-04351161-\$).did. or (JP-05003546-\$ or JP-04180339-\$).did. | US-PGPUB; USPAT; EPO; JPO; DERWENT | ADJ | ON | 2010/10/20 13:18 |
| S32 3 | 11 | S322 and bayer | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT | ADJ | ON | 2010/10/20 13:18 |
| S32 4 | 2 | ((("20080100734") or ("20090190020"))).PN. | US-PGPUB; USPAT | OR | OFF | 2010/10/20 17:02 |

EAST Search History (Interference)

| Ref # | Hits | Search Query | DBs | Default Operator | Plurals | Time Stamp |
|-------|------|--|----------------|------------------|---------|------------------|
| L18 | 5 | (color filter layer with micro lens layer).dm. | USPAT; UPAD | ADJ | ON | 2011/11/08 13:17 |
| L19 | 1388 | ("same" channel).dm. | USPAT; UPAD | ADJ | ON | 2011/11/08 13:17 |
| L20 | 0 | ("same" channel with light receiving area).dm. | USPAT; UPAD | ADJ | ON | 2011/11/08 13:18 |
| L21 | 0 | ("same" channel with pixel signal).dm. | USPAT; UPAD | ADJ | ON | 2011/11/08 13:18 |
| L22 | 0 | ("same" channel with pixel signals).dm. | USPAT; UPAD | ADJ | ON | 2011/11/08 13:18 |
| L23 | 0 | (level difference with color filter).dm. | USPAT; UPAD | ADJ | ON | 2011/11/08 13:18 |
| L24 | 0 | (divisional joint exposure).dm. | USPAT; UPAD | ADJ | ON | 2011/11/08 13:18 |